

1979 and 1980. Of the 1981 original \$3.3 billion funding level for EPA construction grants, more than half was rescinded, reducing the 1981 appropriation to \$1.6 billion.

Funding for major Forest Service activities has been reduced from \$1.7 billion in 1981 to \$1.4 billion in 1982, while appropriations for water resources development have been decreased from \$4.1 billion to \$3.9 billion for these years. Budget authority for recreational resources programs, primarily those of the Department of the Interior, has also been cut, from \$1.6 billion in 1981 to \$1.5 billion in 1982. These areas were subject to authorization ceilings enacted under reconciliation. In addition, over \$200 million in 1981 funds for other natural resources programs, primarily park acquisition, was rescinded.

Energy. The Congress has also enacted significant cuts for 1982 in a number of major energy programs, setting authorization levels for 1982 through 1984 below 1981 appropriation levels. The 1982 appropriations for all nonmilitary energy programs are also below 1981 levels, even with the increased funding for the Strategic Petroleum Reserve (SPR). Excluding SPR expenditures and adjusting for the deferrals of \$560 million in 1981 appropriations for conservation programs and fossil energy research, outlays for nonmilitary DOE activities were reduced from \$5.5 billion in 1981 to \$5.0 billion in 1982. The major reductions from 1981 occurred in conservation programs (\$0.2 billion, a 40 percent decrease), fossil energy programs (\$0.15 billion, a 20 percent decrease), and regulation (\$0.1 billion, a 54 percent decrease).

Science. The NASA space flight program was an exception to the widespread cuts in these functions. The 1982 appropriation of \$3.5 billion is up from the \$3.2 billion provided in 1981.

#### Baseline Projections, 1983-1987

Under the baseline projections for these three functions, net on-budget outlays will fall slightly, from \$25.9 billion in 1982 to \$25.3 billion in 1983, because of the budgetary changes made by the 97th Congress. Although outlays are then projected to rise, reaching \$28.6 billion in 1987, they will remain below the 1981 outlays of \$30.3 billion during this entire period. (This on-budget reduction is more than offset by off-budget Strategic Petroleum Reserve outlays.)

If current policy remains in effect, the 1983 relative shares of total net outlays are projected to shift from natural resources and energy toward general science. In 1983, natural resources and energy outlays are projected to decline to \$12.6 billion and \$5.5 billion, respectively. By contrast, general science outlays are projected to rise to \$7.2 billion in 1983.

During the 1983-1987 period, the baseline projections show that natural resources' share will decline relative to both those of energy and science. The natural resources budget is projected to rise by only \$1 billion, to \$13.6 billion in 1987, primarily due to declining outlays for EPA construction grants and steadily increasing receipts from timber sales and mineral leasing. In contrast, the energy budget grows by \$1.1 billion to \$6.6 billion by 1987, while the science budget increases by \$1.2 billion to \$8.4 billion. Since the natural resources budget was larger at the start of the projection period, the smaller rise entails a larger than proportional decrease in budget share.

#### BUDGET STRATEGIES

This section presents four nonexclusive strategies for reducing the net federal budget through changes in the natural resources, energy, and science functions. The first two strategies focus on reducing expenditures, while the last two are concerned with increasing offsetting receipts and revenues. The strategies are:

- o Concentrating federal R&D programs on basic research and reduce commercialization efforts;
- o Changing the federal/state division of responsibilities and revenues;
- o Recovering the costs of government services; and
- o Obtaining market value for federal resources.

#### Concentrating on Basic Research and Reducing Commercialization Efforts

This budget strategy applies primarily to the energy function, although it could be relevant elsewhere as well. The federal government supports all levels of research on new energy

technologies, from the most basic research to programs designed to demonstrate the commercial viability of particular applications ("commercialization"). The major programs are nuclear fission, including the breeder reactor; magnetic fusion; fossil fuel; conservation; and solar and other renewable resources. While federal aid for basic research has existed for years, government support of commercialization efforts, apart from nuclear energy, is relatively new and is largely a result of the energy crisis. This support has caused marked increases in the energy budget.

A precise estimate of the relative shares of basic research and commercialization would require a project-by-project evaluation. Nevertheless, an outer-bound estimate for commercialization can be made by comparing the budgets for specific technologies with those for general science. In 1981, DOE spent nearly \$4.0 billion on commercialization and research on technologies with at least some near-term potential. (These include the programs for nuclear fission, fossil fuel, conservation, breeder reactor, solar, and other renewable resources.) In contrast, only \$1.1 billion was spent in 1981 on general science research or research into areas with no near-term applications, such as magnetic fusion. This rough estimate only defines the furthest limit of what might be considered technology commercialization. In addition, the Synthetic Fuels Corporation (SFC) and the Clinch River Breeder Reactor programs could increase commercialization outlays substantially, especially if the SFC grants direct loans and enters joint ventures and purchase agreements, as it is authorized to do. <sup>1/</sup> In sum, it is probable that commercialization outlays will increase even more in the future relative to basic research outlays.

The government generally has focused its commercialization efforts on publicly desirable technologies that the private market could not develop rapidly. For example, there are costs other than price associated with a high level of oil imports--primarily economic insecurity from potential disruptions and foreign policy constraints. Therefore, it is in the public interest to bring import-saving technologies into commercial use faster than private

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1. The Congress has appropriated \$17.4 billion for the Synthetic Fuels Corporation (SFC) and to foster other alternative fuels development programs. While the amount of outlays this appropriation will eventually generate is unknown, it does indicate the level of financial exposure of the federal government.

markets would. Similar arguments might be constructed for government support of other commercialization programs.

Independent of the rationale for early commercial development of various technologies, some thought should be given to the effectiveness of past federal commercialization programs. Case studies have shown that government support, however well-motivated, has not been a strong factor in achieving early commercial development of the sponsored technologies, except when the government itself needed the technology. For example, federal sponsorship of commercial nuclear-powered ships, such as the U.S.S. Savannah, induced very little private use of such ships. Similarly, the supersonic transport (SST), which the federal government supported for years, was not greeted with enthusiasm, or financial commitment, by the airline industry. Indeed, France and the United Kingdom are considering ending their support of the SST. The successful federal promotion of new technologies, most notably semiconductors and synthetic rubber, occurred when the government wanted the technology for its own use, not just for the general good. 2/

Given these relative strengths and weaknesses, the government might increase its contribution to technological development by concentrating on basic research, in which it has a comparative advantage, and decreasing commercialization activity, in which it is relatively weak. While technically competent to judge products and processes, government planners are not subject to the price disciplines that face corporate planners. Without price discipline, the government could continue to back technically practical, but commercially unfeasible, technologies well beyond the limits of benefits to society. Conversely, government planners can wait for research to produce results, because they do not face the short-term economic strictures of private companies. In addition, while firms are principally interested in those returns to research and development that accrue to the firm, the government is interested in the returns to society as a whole and so can place a higher value on the benefits of research investments.

Synthetic Fuels Corporation. At issue in this strategy is the value of each government commercialization program relative to

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2. For more information on these case studies, see Walter Baer and others, Analysis of Federally Funded Demonstration Projects: Supporting Case Studies, (Santa Monica, California: Rand Corporation, 1976).

the value of the budget savings achieved by its cancellation. The Synthetic Fuels Corporation (SFC) (see Appendix A-270-e) and other synthetic fuels development programs are probably best viewed in this context. The Congress established the SFC as an off-budget entity in 1980 and appropriated \$12.2 billion to provide loan and price guarantees and purchase agreements to qualifying projects. The SFC was also given authority to make direct loans or participate in joint ventures, if the first three measures should prove insufficient. For the transition period during the establishment of the SFC, the Congress also provided DOE with \$5.2 billion for support of synthetic fuels projects near commercial readiness.

The incentives for private firms to develop synthetic fuels were conceived at a time when oil demand seemed unresponsive to price, oil imports were at an all-time high, and domestic oil prices were controlled. Since then, the higher price of oil resulting from decontrol has provided the energy industry with both the capital and the financial motivation to develop alternative sources for liquid fuels. In addition, the general decline in oil demand, especially for gasoline, and the recent significant drop in oil imports indicate that more oil conservation is possible than previously expected. These trends lessen the near-term need for synthetic liquid fuels and may allow the private sector enough time for an efficient, deliberate development program. The SFC and other synthetic fuel development programs, therefore, could be significantly reduced or even terminated. If the SFC were eliminated, the budget savings could be \$34 million in 1983. Over the 1983-1987 period, the budget savings would be \$186 million. Although most of these projected savings would come from the elimination of administrative costs, the government would also significantly reduce its financial exposure, which potentially could be much greater if some projects financed by the \$12.2 billion SFC appropriation were to fail. The risk is that current conditions in the oil market may prove transitory, again heightening the need for alternative liquid fuels.

Clinch River Breeder Reactor. Other commercialization efforts may be premature. The Clinch River Breeder Reactor (see Appendix A-270-b) is being developed at a time when projections of uranium supply and demand indicate that a breeder may not be economic until well into the next century. While possible uranium shortages in the distant future may warrant research into breeder reactor alternatives, which DOE is pursuing apart from Clinch River, these conditions do not require near-term commercialization efforts. In addition, the cost of the project has escalated

significantly. Although the original projected cost was \$700 million, more than \$900 million has already been spent. Current estimates suggest that the project will take another \$1.7 billion to complete, for a total federal investment of about \$2.6 billion. Furthermore, French breeder technology is said to be more advanced, and the United States might be able to purchase it directly from France without the expense of developing it independently. Terminating the Clinch River Breeder Reactor would save \$200 million in 1983 and a total of \$1.1 billion between 1983 and 1987.

The Congress could decide that commercial development of new technologies should be left to the private sector, which ultimately will decide whether or not to use them. If it chose to end all federal commercialization support and concentrate on basic research, additional reductions in the federal budget would result. Pursuing this strategy, however, would risk that present savings might come at the cost of future benefits. Withdrawal of federal support from projects that have near-term potential would place more of the burden on the private sector, which might choose not to develop as many technologies or to develop them less rapidly.

#### Changing the Federal/State Division of Responsibilities and Revenues

In the 1970s, concern for the deteriorating environment spurred the federal government to increase its aid to state and local governments to deal with environmental problems. Simultaneously, it changed the division of revenues from the sale of resources on federal lands in favor of the states. Whereas the federal government, which bears most of the costs, previously received most of the revenues, now state and federal gross shares are equal. Two ways to reduce net budgetary costs are: decrease federal expenditures by increasing state and local governments' financial responsibility for those environmental projects of direct benefit to them, and increase the federal share of receipts from the sale of federal resources.

Greater State and Local Responsibility. When the federal government imposed stricter environmental regulations during the 1970s, it also provided financial assistance to help the state and local governments meet these heightened standards. Thus federal aid rose to meet a broad range of environmental goals. EPA's construction grants program for wastewater treatment plants, which

totaled \$3.9 billion in 1981 outlays, was the largest of these aid programs (see Appendix A-300-e). The EPA also provides grants to states and localities to enforce environmental regulations, such as those required by the Clean Water and Clean Air Acts. The DOI also provides grants to states and counties for environmental purposes.

While federal aid generally has encouraged states and localities to undertake more responsibilities, federal assumption of a major part of the costs may have led to inefficiencies that could be redressed by transferring some costs to state and local governments. For example, since EPA currently pays 75 percent of allowable construction costs for wastewater treatment plants, but no operating costs, this grant system could have encouraged the construction of capital-intensive and overly sophisticated, but poorly maintained, plants.

In December 1981, the Congress enacted program changes that reduced the federal share of construction costs to 55 percent beginning in 1985. While this change may encourage more efficient use of federal funds, further savings are possible. First, the federal share could be reduced to 45 percent, with corresponding reductions in budget authority. Second, the \$200 million annual authorization for combined sewer overflows into marine bays and estuaries, which begins in 1983, could be eliminated, as could the funds for major rehabilitation of sewers, new collector sewers, and combined sewer overflow. Third, the current two-year time limit on the states' obligation of the funds could be ended. The time limit has the potential to encourage premature and inefficient contracting by local authorities to avoid losing their grants at the end of the two-year period. Given the present level of unexpended appropriations and the slow spendout rate, large near-term savings in outlays are not likely. If the above program and corresponding funding changes were instituted, little, if any, money could be saved in 1983, but over the 1983-1987 period, \$820 million could be saved.

Such shifts in responsibility, however, should be carefully evaluated since these funds are the principal lever the federal government has to enlist the cooperation of the states to meet environmental goals. Should the funds be cut significantly, some states and localities might reduce their environmental efforts, with the consequent loss of much progress.

Increase the Federal Share of Revenues from Sale of Federal Resources. In addition to shifting the responsibility for

some expenditures to state and local governments, the federal government could retain a larger share of receipts derived from onshore federal resources that it currently divides with the states and counties (see Appendix A-300-c). Since passage of the Coal Leasing Amendments Act of 1975, gross revenues for most federal mineral resources have been split equally between the states and the federal government. (Prior to the 1975 act, the state share was 37.5 percent and the federal share was 62.5 percent.) The net federal share may be much lower, however, since royalty and other resource payments are deductible from federal taxes as business expenses. Other federal land programs, such as leasing grazing rights (see Appendix A-300-b), also have sharing rules. Total receipts from onshore federal lands leasing and fees in 1981 were over \$750 million. In 1981, payments to the states resulting from these receipts totaled \$350 million. (By contrast, the \$10.1 billion derived from offshore leases in 1981 accrued entirely to the federal government.) Changing the federal/state share of mineral leasing gross receipts to the pre-1975 ratio (62.5 percent for the federal government and 37.5 percent for the states) would net the federal government \$146 million in 1983 and \$879 million during the 1983-1987 period. (This shift in the gross shares is roughly equivalent to an even division of net, after tax, receipts.)

Although the benefits of federal land use are shared with the states, the costs of maintenance, preparation for leasing, enforcement, and reclamation are borne by federal agencies. The rationale for this is that federal ownership preempts private use and taxation by the states. In addition, development of these resources increases demand for local services, such as schools and roads.

#### Recovering Costs of Government Services

When the federal government provides services that clearly benefit particular and identifiable groups or individuals, it might be appropriate to charge user fees for these services. Often, the government provides unique services for which there are no private-sector markets. In the absence of a market to guide the appropriate pricing of the services, the government could at least attempt to recover its costs. If user fees do not cover the costs, the undercharge tends to distort the allocation of resources, resulting in over or wasteful use of federal resources. It also requires that the service be subsidized by others who do not use the service.



Federal Recreational Areas. Entrance fees at federal recreation areas do not cover the costs of maintaining recreational facilities (see Appendix A-300-d). Besides providing a subsidy to those who use the areas, the low fees probably contribute to overcrowding and, possibly, abuse of the areas. At areas charging fees, visitors pay an average of 20 cents per visit. Because only some areas charge fees, however, all visitors to all federal recreational areas pay only 1 cent per visit when receipts are averaged over all sites. In some instances, charging fees is impractical, either because the areas are too remote or because access to them is uncontrollable. In other federal recreation areas, such as water impoundments and traditional national parks, the fees are often already collected and could easily be raised to an average of 60 cents a visitor above the cost of collection. If this were done, federal receipts would rise by \$30 million in 1983 and by \$381 million over the 1983-1987 period.

Strategic Petroleum Reserve. The Strategic Petroleum Reserve (SPR) is another instance of the government providing a service--in this case, insurance against another oil import curtailment--without recovering the costs of the service (see Appendix B-270-f). Although the Congress placed this program, which costs \$2 to \$4 billion annually, off-budget for 1982, the impact on the economy remains the same as if it were on-budget. By imposing a tax or fee on the direct users of oil--the primary beneficiaries of the SPR--the costs of this insurance would be decreased for those who are less direct beneficiaries. A tax or fee could take three forms: an import fee on crude oil and refined products; a gasoline tax; or a fee on crude oil used by U.S. refiners, with an equivalent tax on imported refined products. Since the size of the fee or tax necessary to pay for the SPR would be less than \$1 per barrel, or 3 cents per gallon for a gasoline tax, the impact on consumer prices would not be large. Similarly, the effects on the automobile industry should not be significant. A tax of 50 cents per barrel on domestic and imported refined products would raise federal revenues by \$2.9 billion in 1983 and \$14.5 billion during the 1983-1987 period. The SPR program would cost about this amount during the period.

Subsidies for Electricity Generation. Users of electricity in general and nuclear-generated electricity in particular benefit from several different government services for which fees do not cover government costs. Undercharges occur in nuclear waste disposal and uranium fuel enrichment programs and in subsidized low-interest loans for some utilities.

Disposal of Nuclear Waste. The federal government spends over \$200 million annually on research to determine the best means and places to dispose of spent fuel from commercial nuclear reactors (see Appendix A-270-c). While the consumers of electricity from these reactors are the primary beneficiaries of this research, they now pay none of its costs directly. Producers and users of this electricity might make more economic decisions if they faced the true cost of the nuclear-generated electricity and paid the disposal research costs. Imposing a surcharge of about one-half mill per kilowatt hour on nuclear-generated electricity would provide enough funds in the near term for the nuclear waste R&D activities. This action would increase the average consumer's price of electricity by less than 1 percent, while providing the federal government \$225 million in 1983 and \$1.4 billion during 1983-1987.

Uranium Enrichment. Another implicit subsidy to the nuclear-power industry is the undercharge for uranium enrichment at federal facilities (see Appendix A-270-d). Whereas federal fees to increase the U-235 fraction in nuclear fuel are set to recover only incurred costs, private firms routinely cover the costs of taxes, insurance, and return on equity in their prices. If enrichment service fees were raised to eliminate these undercharges, government rates would rise by 17 percent. Additional revenues would total \$525 million during 1983 and \$3.2 billion for 1983-1987.

Rural Electrification Administration. Certain electric power and telephone utilities, such as those financed by the Rural Electrification Administration (REA), are another instance in which the government does not recover the full cost of the services it provides. These power authorities receive substantial direct interest subsidies through REA's direct loan program and implicit subsidies through REA-guaranteed direct loans from the Federal Financing Bank. These subsidies may encourage the construction of excess capacity and represent a significant contingent liability of the federal government.

One possible approach to reduce the federal cost of REA programs would be to reduce interest subsidies on direct loans and to lower loan guarantee authority to a level that would encourage a more efficient allocation of scarce federal credit assistance. If interest rates for direct loans were set at 3 percentage points below the cost of federal borrowing and loan guarantee authority was reduced by 50 percent, the federal government would save \$300

million in off-budget outlays in 1983 and \$7 billion between 1983 and 1987 (see Appendix A-270-f).

Although increased charges are desirable for budgetary, efficiency, and, perhaps, equity purposes, two potential difficulties arise from the higher prices they entail. First, these increased prices could be reflected in a slight increase in inflation. Second, a shift in the financing of government services from general revenues to cost-covering devices, such as user fees or higher rates or prices, could impose hardships on some recipients because they are poor, dependent on the service for employment, or have made investments that would be worth less if federal support declined. These hardships could be suffered by individuals, firms, localities, or regions.

#### Obtaining Market Value for Federal Resources

The preceding section discussed instances in which the government received less than it cost to provide services and suggested a strategy of full cost recovery. This section discusses a strategy of market pricing for certain federal resources.

In areas with private markets, prices for federal resources could be set through use of competitive bidding. This would result in efficient use of government resources and significant increases in government revenues.

Federal Irrigation Programs. In many cases, federal fees do not begin to match the market value of the good or service provided. Such an undercharge can distort the allocation of resources and cause abuse and overuse of resources under federal purview. For example, subsidized water for irrigation was originally provided to encourage development of the West (see Appendix A-300-a). Thus, federal water projects did not attempt to sell irrigation water at market rates, but rather based on what farmers could afford. Currently, however, low water rates may encourage wasteful use of water in regions that no longer need subsidized development. For example, California farmers receiving federal water are growing low-value crops like cotton and rice, which would better be grown in regions that have a comparative advantage in those crops. The cotton also receives federal price supports because excess supply drives down prices. In this case, misallocation of federal funds in one area also encourages misallocation of federal funds in other areas. Raising water fees to cover costs (roughly \$50 per acre-foot) would save \$22 million in

1983 and \$375 million over the next five years. Raising them to market levels (roughly \$100 per acre-foot) would provide net receipts of as much as \$800 million over the same period.

Grazing Rights on Federal Lands. The policy on pricing of federal resources varies from agency to agency. Fees for grazing livestock on federal rangeland are a case in point (see Appendix A-300-b). Two agencies, the Department of Defense (DoD) and the Bureau of Indian Affairs (BIA), receive market values for their grazing rights by auctioning them. However, the agencies with the largest landholdings--the Forest Service and the Bureau of Land Management--allocate grazing rights by permit and collect fees based on beef cattle prices, forage values, and other costs associated with raising cattle. These grazing fees (\$2.30 per animal unit month in 1981) have rarely been as high as nearby commercial rates (\$5 to \$12 per animal unit month) or comparable bids for grazing on DoD or BIA land. Furthermore, possession of a grazing permit, which is obtained by federal administrative process, is usually of substantial economic value to the holder. Competing ranchers, not so favored, must pay market rates and are at a comparative disadvantage. If permits were auctioned, with the required minimum bid equal to the current fee, the public would receive this difference in value between market rates and the current grazing fees. Such a policy could collect as much as \$3 million in extra receipts in 1983 and \$87 million over the next five years.

On the other hand, charging market rates for identifiable beneficiaries of federal projects might cause hardships for some individuals, classes of individuals, and regions or localities. In addition, the historic enfranchisement of individuals should be considered. If recipients were assured of continued federal support for certain projects, they may have taken actions and made investments that would be worth less if federal support declined. Therefore, changing commitments in midstream might, in effect, be asking these individuals to bear the costs of a national good. Moreover, the key disadvantage in adoption of market pricing in these programs is that the primary burden of each change would be felt in the West; thus the cumulative burden of these changes on this area of the country would probably be large.

#### CONCLUDING COMMENTS

The four major budget strategies outlined in this chapter are: concentrating federal R&D programs on basic research, while

reducing commercialization; changing the federal/state division of responsibilities and revenues; recovering the costs of government services; and obtaining full-market value for federal resources.

Of the four strategies, the third (recovering the costs of government services) would probably most reduce the net federal budget. Charging fees to cover the cost of federal services could increase federal revenues significantly. For example, if petroleum users paid for the construction and filling of the Strategic Petroleum Reserve, this alone would raise \$2.9 billion annually.

The first strategy (reducing commercialization efforts) would rank second in reducing the net federal budget and would be the easiest to implement. Federal commercialization efforts in 1981 may have been nearly \$4.0 billion. The expenditure reductions, however, are accompanied by the risk that present savings might come at the cost of future benefits.

Changing the federal/state division of costs and revenues would probably not produce very large outlay reductions in the immediate future. The largest program in this area in 1982, the EPA construction grants, has already been cut significantly. Other federal payments to states for programs in these functions were less than \$1 billion in 1981. Therefore, this strategy is unlikely to produce significant reductions in net federal outlays.

Obtaining full value for federal resources would not immediately result in significantly larger receipts. Most changes in these procedures, such as charging market rates for federally provided water as new contracts are negotiated, could take years to show sizable results. In addition, most of the impact of these changes would be felt in one region of the country, the West.



The agriculture budget function (350) covers two groups of federal activities. One is the support and stabilization of farm prices and incomes. The other includes agricultural research and the provision of services such as extension education, credit, market intelligence, commodity grading and inspection, and animal and plant pest and disease control. Outlays in the farm income stabilization subfunction were \$4.0 billion in fiscal year 1981, while outlays in the agricultural research and services subfunction were \$1.6 billion.

#### BUDGET HISTORY AND PROJECTIONS

Total agriculture outlays are about 1 percent of all federal expenditures. In real terms, after adjusting for inflation, they declined by about half from 1970 to 1981. About two-thirds of the outlays are accounted for by commodity programs to stabilize prices and incomes; a change in policy toward a greater dependence on markets helped to reduce these costs in the 1970s. In 1981, the Agriculture and Food Act (Public Law 97-98) essentially continued the commodity programs for the 1982-1985 crops, while the reconciliation act had a relatively small effect on agriculture outlays. If current policy were to be maintained in 1983-1987, agriculture outlays would decline in real terms.

#### Historical Trends, 1970-1981

Agriculture outlays are far more variable from year to year than outlays in most other budget functions. This reflects the volatility of farm production and prices. In 1974, for example, agriculture outlays declined from the level of the previous year by about one-half, whereas in 1977 they more than doubled. In 1982, they are expected to be more than double the level of 1981.

Commodity programs account for more than three-fourths of the outlays in the farm income stabilization subfunction; other principal programs in this subfunction are federal crop insurance and Farmers Home Administration (FmHA) loans to farmers (see Table VI-1). Under the federal crop insurance program farmers can buy in-

TABLE VI-1. FEDERAL OUTLAYS FOR AGRICULTURE  
(In millions of dollars)

Major Programs	Actual		Estimated 1982	Baseline Projection	
	1970	1981		1983	1987
Farm Income Stabilization					
Commodity programs					
Major crops <u>a/</u>	3,004	1,457	8,005	2,225	1,475
Dairy	87	1,894	1,907	1,867	1,706
Peanuts	35	28	75	50	24
Tobacco	115	-51 <u>b/</u>	-82 <u>b/</u>	25	21
Other	<u>536</u>	<u>666</u>	<u>1,288</u>	<u>1,284</u>	<u>1,255</u>
Subtotal, Com- modity Programs	3,777	3,994	11,193	5,451	4,481
Federal crop insurance	21	2	170	202	443
Other	<u>791</u>	<u>22</u>	<u>1,066</u>	<u>997</u>	<u>1,197</u>
Subtotal, Sta- bilization	4,589	4,018	12,429	6,650	6,121
Agricultural Research and Services	577	1,584	1,504	1,607	1,906
Pay Raises <u>c/</u>	<u>---</u>	<u>---</u>	<u>---</u>	<u>52</u>	<u>301</u>
Total	5,166	5,602	13,933	8,309	8,328

a. Wheat, feed grains, rice, soybeans, and upland cotton.

b. Minus sign denotes receipts in excess of outlays.

c. See Table IV-1, footnote a, for distribution of pay raises.



insurance against crop losses caused by natural hazards; the premiums are subsidized by the government. Agricultural commodity programs undertake to support and stabilize farm prices and incomes by means of several measures, including price supports, direct payments, and supply controls:

- o Price supports are used to maintain the minimum prices of agricultural commodities at levels approved by the Congress. The government supports prices through commodity loans to farmers or by purchasing commodities.
- o Direct payments are made to producers of wheat, feed grains, rice, cotton, and wool and mohair to supplement their incomes in low price years. For farmers raising these crops, the direct payments are called deficiency payments. Payments are also made to farmers who agree to reduce the acreage of certain crops. Direct payments for income support and disaster losses averaged about three-fifths of commodity program outlays in the 1970s. Since 1975, however, income support payments have been made less frequently and in smaller amounts.
- o Several tools are used to influence the supply of farm products, including acreage allotments, marketing quotas, cropland set-asides, acreage diversion, and farmer-owned grain reserves.

A decline occurred in real commodity program outlays in the years 1970-1981, reflecting changes in commodity policy for wheat, feed grains, rice, and upland cotton. As farmers increased their sales to foreign markets, and as farm output and incomes grew, the federal government moved away from a heavy involvement in support programs for these commodities and toward greater reliance on markets. In contrast, the policy for milk, tobacco, and peanuts remained essentially unchanged. High milk price supports in recent years have enhanced dairy farmers' incomes at the expense of taxpayers and consumers. Outlays for the purchase of surplus dairy products were \$1.9 billion in 1981--about 50 percent of commodity program outlays.

Outlays for agricultural research and services increased about 1 percent per year in real terms from 1970 to 1981. Most of the outlays were for research, extension education, and animal and plant protection programs:

- o Funded research is principally scientific research in animal and plant production, natural resource use, and processing, storage, and distribution of agricultural commodities. Research outlays were about \$615 million in 1981. Approximately 25 percent of research outlays are allocated to the states by formula.
- o Extension education outlays were about \$300 million in 1981. About two-thirds of these outlays are allocated by formula to the states.
- o Outlays for the control of animal and plant pests and diseases were about \$280 million in 1981.

#### The 1982 Budget Decisions

The reconciliation act of 1981 affected several agricultural programs, although it reduced net outlays only slightly. Reconciliation tended to reduce the government's influence in the farm economy and to shift the costs of programs to the private sector. As of October 1, 1981, the minimum level of dairy price support was reduced from 80 percent of parity to 75 percent. <sup>1/</sup> The program providing loans for on-farm storage facilities was made discretionary and its availability was assured only in areas lacking adequate storage capacity. Interest rates on farm ownership and operating loans for farmers with limited resources were raised moderately. For 1982, the ownership loan level was reduced from the 1981 level, and the operating loan level was increased. For emergency disaster loans, the amount of loss needed to qualify was raised, as was the interest rate on the loans. Finally, user fees were adopted for federal commodity and warehouse inspection services.

Another important development was the Agriculture and Food Act of 1981, which essentially extended current agricultural commodity programs. It continued deficiency payments for wheat, feed grains, upland cotton, and rice, and income support payments for wool and mohair. However, it authorized disaster payments only in counties where federal crop insurance is not available, essentially

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1. The parity price of milk is the price, in current dollars, that gives milk the same purchasing power per unit in terms of goods and services bought by farmers and their families as prevailed in the base period, January 1910 to December 1914.

eliminating these payments after 1982. It continued price supports through commodity loans and government purchases and extended the farmer-owned grain reserve. The dairy price support program was unchanged in form, although the minimum level of price support was reduced as compared with permanent authorizing legislation. The peanut program was made less restrictive as to who could grow peanuts. A sugar price support loan program was authorized that raises domestic sugar prices substantially above current world prices.

A large increase in 1982 expenditures was caused mainly by high commodity program outlays resulting from low prices for 1981 crops. The fall in prices reflected record or near-record domestic production, generally good harvests abroad, and weak economic growth here and abroad. Deficiency payments account for about a fifth of the 1982 outlay increase for major crops, but commodity loans and farmer-owned grain reserve loans make up the largest share of the increase. The loan repayments will show up as budget receipts in subsequent years.

#### Baseline Projections, 1983-1987

Agriculture outlays under current policies are projected to total \$8.3 billion in 1983 and 1987. For the five-year period, total commodity program outlays average about \$5.0 billion annually, and dairy price support outlays about \$1.8 billion. Deficiency payments are projected to diminish in relative importance and disaster payments are not projected after 1982. Expansion of the federal crop insurance program increases the relative importance of premium subsidies and administrative expenses in total outlays. For the outyears, the largest share of farm income stabilization outlays is taken up by commodity loans and purchases, farmer-owned grain reserve storage payments, interest, and crop insurance premium subsidies. Agricultural research and services outlays increase from \$1.6 billion in 1983 to \$1.9 billion in 1987, declining after adjusting for inflation.

#### BUDGET STRATEGIES

This section examines two avenues for reducing federal outlays on agriculture. One would be to place more reliance on markets in determining farm prices and incomes--continuing the trend of agricultural commodity policy in recent years. Another approach would be to shift certain federal expenditures for agricul-

tural research and services to state or local governments and to private groups.

#### Increasing Reliance on Markets in Determining Farm Prices and Incomes

The major long-standing federal concern in agriculture has been with assuring adequate supplies of agricultural products. Since the 1930s, this concern has been reflected in programs to stabilize farm prices and to enhance farm incomes. A principal means of doing this has been commodity programs that transfer risk and uncertainty in farming to the public sector. In the early 1960s, public dissatisfaction with the high costs of commodity programs for grains and upland cotton motivated the development of a long-term strategy that allowed the gradual reduction of grain and upland cotton price supports to world price levels. Direct payments were made to farmers to cushion this transition and to encourage them to participate in voluntary supply control programs. In the 1970s, agricultural policy for these commodities continued to evolve toward a greater market orientation, focusing more on stabilization and less on income support. Commodity programs diminished sharply in importance for these crop farmers. By the late 1970s, the average level of federal support in grains and upland cotton was about \$0.20 per \$1.00 of crop cash receipts, as compared with nearly \$1.00 per \$1.00 of cash receipts in the early 1960s.

In contrast, the policy for milk, peanuts, and tobacco has changed little since the 1930s, and the government continues to exert a strong influence on supplies and prices for these commodities. Tobacco and peanut prices are supported through acreage allotments and marketing quotas in combination with commodity loans made to farmers. Milk prices are supported through government purchases of dairy products. For these commodities, price supports are used both to stabilize prices and to enhance incomes.

The justifications for the federal commodity programs conceived in the 1930s--chronic excess production capacity, substandard farm incomes, and low returns to farm production resources--no longer exist. Farmers still face the challenges of risk and uncertainty--indeed, these are inherent in agriculture. And the growing dependence on export markets creates new sources of risk and uncertainty that did not loom very large when the commodity programs were first conceived.